List of Claims:

Claim 1 (Currently Amended): A method of data communication over a time division multiplexed bus, including one or more digital signal lines, said method comprising:

receiving ~~an~~ a voiceband analog data signal over of a telephone line from a first analog modem;

utilizing a linear coding process to generate a plurality of digitized analog data signal samples from said voiceband analog data analog data signal; and

transmitting said plurality of digitized analog data signal samples via said one or more digital signal lines to a second analog modem.

Claim 2 (Original): The method of claim 1, wherein said linear coding process uses a sampling rate of about 16 kHz with an 8 bits/sample.

Claim 3 (Original): The method of claim 1, wherein said linear coding process uses a sampling rate of about 32 kHz with an 8 bits/sample.

Claim 4 (Currently Amended): The method of claim 1, wherein said second analog modem is a remote access server modem.

Claim 5 (Original): The method of claim 4, wherein said plurality of digitized analog data signal samples reach said remote access server modem over an IP link.

Claim 6 (Currently Amended): The method of claim 1, ~~wherein said one or more digital signal lines has two digital signal lines, and~~ wherein said transmitting transmits said plurality of digitized analog data signal samples via ~~said~~ two of said one or more digital signal lines.

Claim 7 (Currently Amended): The method of claim 1, wherein prior to said receiving, said method further comprises determining said first analog modem to be capable of supporting a speed of 64kbps or more.

Claim 8 (Currently Amended): A method of data communication over a first time division multiplexed bus, including one or more digital signal lines, said method comprising:

receiving ~~an~~ a voiceband analog data signal over a telephone line from a first analog modem;

utilizing a linear coding process to generate a plurality of digitized analog data signal samples from said voiceband analog data signal;

transmitting said plurality of digitized analog data signal samples via said one or more digital signal lines of said first time division multiplexed bus to a second analog modem;

demodulating said plurality of digitized analog data signal samples by said second analog modem to generate digital data;

transmitting said digital data by said second analog modem over one or more digital signal lines of a second time division multiplexed bus.

Claim 9 (Original): The method of claim 8, wherein said linear coding process uses a sampling rate of about 16 kHz with an 8 bits/sample.

Claim 10 (Currently Amended): The method of claim 8, wherein said second analog modem is a digital loop carrier modem.

Claim 11 (Original): The method of claim 8, wherein said digital data reach a remote access server over an IP link.

Claim 12 (Currently Amended): The method of claim 8, ~~wherein said one or more digital signal lines has two digital signal lines, and~~ wherein said transmitting said digital data transmits said digital data via ~~said~~ two of said one or more digital signal lines of said second time division multiplexed bus.

Claim 13 (Currently Amended): The method of claim 8, wherein prior to said receiving, said method further comprises determining said first analog modem to be capable of supporting a speed of 64kbps or more.

Claim 14 (Currently Amended): A data communication system for communication with a first modem over a telephone line, said communication system comprising:

a receiver capable of receiving ~~an~~ a voiceband analog data signal over said telephone line from said first analog modem;

a processor capable of applying a linear coding process to said voiceband analog data signal to generate a plurality of digitized analog data signal samples; and

a transmitter capable of transmitting said plurality of digitized analog data signal samples via one or more digital signal lines of a time division multiplexed bus to a second analog modem.

Claim 15 (Original): The communication system of claim 14, wherein said linear coding process uses a sampling rate of about 16 kHz with an 8 bits/sample.

Claim 16 (Currently Amended): The communication system of claim 14, wherein said second analog modem is a remote access server modem.

Claim 17 (Original): The communication system of claim 16, wherein said plurality of digitized analog data signal samples reach said remote access server modem over an IP link.

Claim 18 (Currently Amended): The communication system of claim 14, ~~wherein said one or more digital signal lines has two digital signal lines, and~~ wherein said transmitter transmits said plurality of digitized analog data signal samples via ~~said~~ two of said one or more digital signal lines.

Claim 19 (Currently Amended): The communication system of claim 14, wherein prior to said receiver receiving said voiceband analog data signal, said processor determines whether said first analog modem is capable of supporting a speed of 64kbps or more.

Claim 20 (Currently Amended): A data communication system for communication with a first modem over a telephone line, said communication system comprising:

a receiver capable of receiving ~~an~~ a voiceband analog data signal over a telephone line from a first analog modem;

a processor capable of applying a linear coding process to said voiceband analog data signal to generate a plurality of digitized analog data signal samples;

a transmitter capable of transmitting said plurality of digitized analog data signal samples via one or more digital signal lines of a first time division multiplexed bus;

a second analog modem in communication with said first time division multiplexed bus;

wherein said second analog modem receives said plurality of digitized analog data signal samples via said one or more digital signal lines of said first time division multiplexed bus, demodulates said plurality of digitized analog data signal samples to generate digital data, and transmits said digital data over one or more digital signal lines of a second time division multiplexed bus.

Claim 21 (Original): The communication system of claim 20, wherein said linear coding process uses a sampling rate of about 16 kHz with an 8 bits/sample.

Claim 22 (Currently Amended): The communication system of claim 20, wherein said second analog modem is a digital loop carrier modem.

Claim 23 (Original): The communication system of claim 20, wherein said digital data reach a remote access server over an IP link.

Claim 24 (Currently Amended): The communication system of claim 20, ~~wherein said one or more digital signal lines has two digital signal lines, and~~ wherein said second modem transmits said digital data via ~~said~~ two of said one or more digital signal lines of said second time division multiplexed bus.

Claim 25 (Currently Amended): The communication system of claim 20, wherein prior to said receiver receiving said voiceband analog data signal, said processor determines whether said first analog modem is capable of supporting a speed of 64kbps or more.